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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,712	08/12/2003	Felice DiMascio	HAT-0019	1711

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EXAMINER
PHASGE, ARUN S

ART UNIT	PAPER NUMBER
1753	

DATE MAILED: 12/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,712	DIMASCIO ET AL.	
	Examiner	Art Unit	
	Arun S. Phasge	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The disclosure is objected to because of the following informalities: in section 0026 Outlet 82 should be outlet 88.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-13, 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaczur et al. (Kaczur), U.S. Patent 5,092,970

The Kaczur patent is cited to show the process for producing chlorine dioxide comprising feeding an aqueous alkali metal chloride solution into an anode compartment of an electrolytic reactor, wherein the reactor comprises the anode compartment comprising an anode, a cathode compartment comprising a cathode, a central compartment positioned between the anode and cathode compartments, wherein the central compartment comprises a particulate material, such as the claimed cation exchange material, feeding an aqueous metal chlorite solution into the central compartment of the electrolytic reaction and applying a current to the reactor to produce the effluent containing chlorine dioxide (see figure 1 and col. 4, line 7 to col. 5, line 30). The reference further teaches the addition of acid ions to the central compartment form the anode compartment (see col. 4, lines 36-58). The reference further discloses the broad range of workable concentration of the chlorite (see examples in columns 7-8).

The Kaczur patent fails to disclose the feeding of the acidic effluent from the anode compartment to the central compartment, rather it allows the acid ions to penetrate the central compartment from the anode compartment.

The invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disclosure of the Kaczur patent, because the patent teaches that the acid from the anode compartment is needed in the central compartment to form the chlorine dioxide and to feed the effluent from the anode compartment is found to be an obvious alternative to the transport of the acid from the anode compartment through the membrane. The exact concentration of the various solutions would have been an experimentally optimized result effective variable well within the purview of the ordinary artisan.

Claims 1-13, 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaczur et al. ('465), U.S. Patent 5,106,465 in view of Sampson applied as above.

The '465 patent is cited to show the process for producing chlorine dioxide comprising feeding an aqueous alkali metal chloride solution into an anode compartment of an electrolytic reactor, wherein the reactor comprises the anode

compartment comprising an anode, a cathode compartment comprising a cathode, a central compartment positioned between the anode and cathode compartments, wherein the central compartment comprises a particulate material, such as the claimed cation exchange material, feeding an aqueous metal chlorite solution into the central compartment of the electrolytic reaction and applying a current to the reactor to produce the effluent containing chlorine dioxide (see figure 1 and col. 4, line 30 to col. 5, line 62). The reference further teaches the addition of acid ions to the central compartment form the anode compartment (see col. 4, line 64 to col. 5, line 8). The reference further discloses the broad range of workable concentration of the chlorite (see examples in columns 9-10).

The patent fails to disclose the feeding of the acidic effluent from the anode compartment to the central compartment, rather it allows the acid ions to penetrate the central compartment from the anode compartment.

The invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disclosure of the '465 patent, because the patent teaches that the acid from the anode compartment is needed in the central compartment to form the chlorine dioxide and to feed the effluent from the anode compartment is found to be an obvious alternative to the

transport of the acid from the anode compartment through the membrane. The exact concentration of the various solutions would have been an experimentally optimized result effective variable well within the purview of the ordinary artisan.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaczur or the '465 patent as applied to claims above, and further in view of Sampson et al. (Sampson), U.S. Patent 5,609,742.

Neither of the Kaczur or the '465 patent discloses the use of a catalyst in the central compartment as recited in claim 14. The Sampson patent is cited to show an improvement in the electrolytic reactor having ion exchange particles, including the claimed catalyst (see abstract and col. 8, lines 5-47).

Consequently, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disclosure of either the Kaczur patent or the '465 patent with the teachings of the Sampson patent, because the Sampson patent disclose the improved results obtained by the use of the catalyst in an electrolytic reactor.

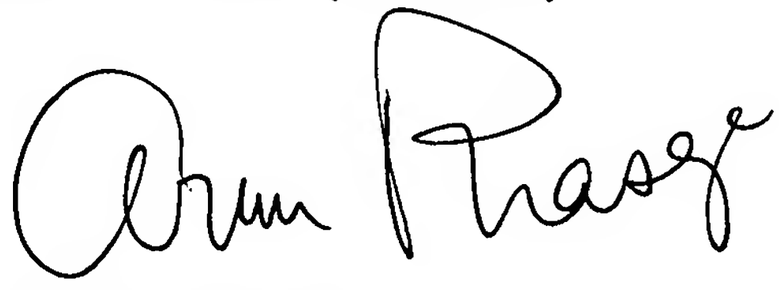
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun S. Phasge whose telephone number is

(571) 272-1345. The examiner can normally be reached on MONDAY-THURSDAY, 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Arun S. Phasge
Primary Examiner
Art Unit 1753

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